Koedoe 6: 91-108 Prins, A.J. 1963

A LIST OF THE ANTS COLLECTED IN THE KRUGER NATIONAL PARK WITH NOTES ON THEIR DISTRIBUTION

By A. J. PRINS,
Research Institute for Plant Protection, Rosebank, C.P.

I. GENERAL DISCUSSION.

Although various scientists in the past have studied the different species of ants that occur in Southern Africa, we are still uncertain about their existence and distribution. The writer therefore has undertaken several survey trips through this Game Reserve for the purpose of establishing the presence of the different species. An attempt has been made to draw up a preliminary list of all the species that could be identified. In each case where the determination is complete, the locality of the type species is given as well as other collection areas. The distribution through the Game Reserve is based on three collections made during Spring 1960 and early Winter 1961 and 1962, and it is quite possible that as a result of future investigations more distribution areas will be discovered.

In 61 samples, collected from various localities, however, the ants could not be determined either by the writer or by the late Dr. G. Arnold, former Myrmecologist of the National Museum of Southern Rhodesia. These samples include *Dorylus* sp., *Aenictus* sp., *Euponera (Trachymesopus)* sp., *Sima* sp., (Nesting in the trunk of *Sclerocarya caffra Sond.*), *Pheidole* sp., *Crematogaster* sp., *Mononorium* sp., *Solenopsis* sp., *Tetramorium* sp., *Triglyphothrix* sp., *Acantholepis* sp., and various camponotine ants of the subgenus *Tanaemyrmex, Myrmotrema* and *Myrmosericus.*

The genus *Camponotus* is fairly well represented and ants belonging to the species *maculatus,* collected from South Africa, Northern and Southern Rhodesia and South West Africa, can be divided into two main groups according to the setal patern on the head. *Camponotus maculatus* F. and C. *maculatus* Subsp. *liengmei* with its present unknown varieties belong to the one group, and C. *maculatus* Subsp. *liengmei* var. *importunoides* to the second group. The variety *importunoides* is absent from the Reserve. The type locality of this ant is Smithwinkel Bay, C.P., and it has been found so far only at Simonstown and the southern coastal areas of the Cape as far as Oudtshoorn.

An inhabitant of the drier areas, *Camponotus fulvopilosus*, De G. which was thought to be present in the Kruger National Park, does not occur in this area although it was collected at Bronkhorstspruit by J. J. Nel in 1957.

The driver ant *Dorylus fulvus* Subsp. *badius* which was collected near Tshokwane, has, according to Dr. Arnold, not been recorded from South Africa. Wheeler, however, states that it was found in South West Africa and in Cape Town. In this species the posterior border of the pronotum is angularly emarginated, while in *Dorylus (Rogmus) fimbriatus* Shuck., which is represented in South Africa and very closely resembles *D. fulvus* Subsp. *badius*, the posterior border of the pronotum is arcuate.

The common red ant *Dorylus helvolus* is also present. So far as we know, the majority of the species of *Dorylus* are carnivorous, except one species *D. orientalis* of India which is herbivorous. Although gardeners sometimes complain about the damage done by these red ants to tubers and young plants, it has not yet been proved that they are the primary cause of the damage. As they are also insectivorous, they may even do good by destroying soil inhabiting pests such as cutworms and white grubs which are known to cause severe damage to pastures.

Another well-represented group is the harvester ants. The widely distributed harvester *Messor barbarus* which occurs throughout the mediterranean countries and Asia has been found only at Olifants Rest Camp and near Shingwidzi, but the genus *Pheidole* is well established.

Pheidole megacephala, the brown house ant which is found in the warm portions of the Northern and Southern hemispheres, has been collected right through the Reserve; its subspecies *punctulata* seems to be predominent. The Pheidoles quite often feed on other insects when the opportunity arises. Near Malelane the writer noticed the subspecies *rotundata* capturing Hemiptera nymphs and dragging them to the nest. Along the Lebombo mountains near the Sabie river a nest of *punctulata* contained the remains of Hemiptera, *Dorylus* sp., and small green iridescent beetles, probably *Buprestidae*.

In areas where tall grass prevails only the nests of the gramnivorous *Ocymyrmex weitzeckeri* var. *arnoldi* are to be found. This species has been observed to capture the workers of *Odontomacus haematodes* and of termites.

The different species of harvesters collected, were usually associated with termites — they probably help themselves to the seeds stored by the termites.

Numerous aphidicolous species comprising the genera *Anopolepis, Camponotus, Pheidole, Crematogaster, Tetramorium* and *Monomorium* are found. These ants usually visit aphids, scale insects and mealie-bugs for their honey dew. In fact they care so much for the safety of these insects that they drive away their natural enemies. The pugnacious ant *(Anoplolepis custodiens)*, the brown house ant, the sugar ant *(Campnotus maculatus)* and the cocktail ants *(Crematogaster* sp.), are among the most important in this group. The workers of *A. custodiens* were often found on the flowers of *Acacia heteracantha*

Burch., although no aphids or scale insects were present. They probably feed on the nectar of the flowers.

Three arboreal genera, *Cataulacus, Polyrachis,* and *Sima* are widely distributed through the northern, central and southern parts of the Game Reserve, but the tailor ant *Oecophylla smaragdina* F. does not occur, although it is quite common in Mocambique. The genus *Cataulacus* is represented by only one species, *Cataulacus rugosus*. These are very slow moving ants, and they sometimes enter the earthern tunnels constructed by termites on the trunks and branches of trees and attack the occupants. The writer found a nest of these ants in the trunk of *Combretum apiculatum* Son. near Pumbe and counted 537 workers and 73 alates. The nest also contained 8 alate pupae, 24 worker pupae, 61 grubs of different ages and a small mutillid, which very closely resembles these ants, and which is probably a parasite. It seems as if these ants prefer *C. apiculatum* for nesting purposes.

It is, however, interesting to note that a nest of *Pheidole megacephala* Subsp. *punctulata* was discovered in a branch of *Adansonia digitata* L. about 11 miles south of Letaba; and near Satara Rest Camp several nests of *Tapinoma arnoldi* occurred in the trunks of *Acacia nigrescens* Oliv.

Although the thief ant *Carebara vidua* Sm. occurs in the Northern and Eastern Transvaal, it seems to be absent from the Kruger National Park, as many termite mounds were examined without success, while the Matabele ant *Megaponera foetens,* which is fairly common in Natal and Zululand, has only been collected near Shingwidzi. This ant lives almost exclusively on termites and produces an offensive odour when disturbed. The writer discovered an army crossing the road about a quarter of a mile from Shingwidzi Rest Camp at five o'clock in the afternoon. They were marching from a termite nest *(Ancistrotermes* sp.) each carrying three termites in its jaws and stridulating very loudly. This happened after a light rain.

The Game Reserve is at the moment free of the Argentine ant *(Iridomyrmex humilis* Mayr.), but as the distribution of this ant is closely connected with the movements of man, it should be watched very carefully.

II. ANT'S GUESTS AND PARASITES.

Of the true guests or symphiles only the beetles belonging to the family Paussidae were found, these occurred in a nest of *Pheidole magacephala* Subsp. *punctulata* near Majika. Lepismids which are synoeketes or indifferently tolerated guests were found in the nest of *P. megacephala* Subsp. *rotundata* (N97) and in the nests of *Euponera caffraria* and *P. prelli* Subsp. *redbankensis* var. *politocciput* near Lower Sabie. These specimens were probably myrmecocleptics as they were very swift moving and the writer noticed in several cases that they were threatened by the ants.

A large Lepismid about 1.5 cm. long, excluding the tail filaments was found in the nest of *Technomyrmex albipes* Subsp. *foreli* in the south of the

Reserve near the Lebombo mountains (S61) and another Lepismid, probably Nicoletiidae occurred in the nest of *Plagiolepis jouberti* near Tshokwane. It was 4.5 mm. long including the tail filaments, white in colour, and rather wormlike in appearance. Its relationship to the ants is not known.

Mites were found on 8 species of ants :

(a) *Imparipes (Imparipes)* sp. (Suborder : Trombidiformes, Fam. : Scutacaridae) in the nests of *Pheidole magacephala* Subsp. *punctulata* near Nwanedzi, *Monomorium albopilosum* var. *thales* (N149) and *Technomyrmex albipes* Subsp. *foreli* near Shingwidzi.

(b) *Imparipes (Telodispus)* sp. on *Camponotus rufoglaucus* Subsp. *vestita* var. *intuens* (N97).

(c) *Histiostoma* sp. (Family Anoetidae, Suborder Sarcoptiformes) in the nest of *Megaponera foetens* near Shingwidzi.

(d) *Eupodes* sp. (Family Eupodidae; Suborder Trombiditormes) on *Pheidole magacephala* Subsp. *rotundata* about 6 miles south of Satara.

(e) *Trachyuropoda* sp. (Family : Trachyuropodidae, Suborder Mesostigmata) in the nests of *Camponotus maculatus* Subsp. near Nwanedzi.

(f) Unknown species (Suborder Mesostigmata) on the ant *Dorylus helvolus* (C146).

They are probably all Myrmecophilous mites and in the case of *Megaponera foetens* they were attached on the head and even on the antennae.

Another ectoparasite is the Hemipteron *Dulichius* (species unknown) which mimics its host more or less in form and colour. It is about 3.7 mm. long and brownish to brownish red. This species occurred in the nests of *Monomorium afrum André* and *Tetramorium* sp. near Tshokwane. The writer noticed one instance where *Dulichius* sucked the body fluids of a *Tetramorium* larva. The parasite has been found before in the nest of *Polyrachis spinigera* Mayr. in East India.

Endoparasites :

Careful separation of the workers of *Pheidole megacephala* Subsp. *punctulata* collected near Skukuza revealed two very large workers with swollen gasters. These mermithergate formes were caused by the Gordiid *Mermis* which lives in the gaster of these ants and attains a length of several centimeters, causing the ants to develop to a gigantic size.

III. MISCELLANEOUS ARTHROPODA.

Hemiptera. Several nymphal stages occurred in the nests of *Pheidole megacephala* Subsp. *punctulata* and *Myrmicaria fusca* Subsp. *nigerrima*, a Mirid in that of *Pheidole megacephala* Subsp. *impressifrons* and a Chermid among the workers and larvae of *Pheidole liengmei* about 6 miles north of Shingwidzi.

A remarkable dark brown Reduviid *Ectmetacanthus*, species very near *annulipes*, was found entering the nests of *Pheidole megacephala* Subsp. *punc-*

tulata near Shingwidzi and seemed to be preying on their larvae. Outside the nest it was observed to follow the workers.

Collembola.

The springtails were represented by the Entomobryidae in the nest of *Pheidole magacephala* Subsp. *punctulata* near Skukuza and the Neelidae in the nests of the same species near Majika. Another springtail probably also Entomobryidae occurred in the nest of *Anoplolepis custodiens* near Pretoriuskop Rest Camp.

Coleoptera : The Carabidae was represented by *Dromius affinis* Peringuey in the nest of *P. magacephala* Subsp. *impressifrons* and *Omostropus palangoides* Reiche in that of *T. albipes* Subsp. *foreli* (S20). Their presence is probably coincidental. The same applies to the Eroiylid *Episcaphula nigropygidialis* Kuhnt. in the nest of *P. tenuinodis;* two large brown Staphylinids (± 8.8 mm.) in that of *P. liengmei* near Tshokwane; *Prunaspila transvaalensis* C. Koch in the nest of *B. crassa* var. *crassior* (N259), *Stenocara arachnoides* Gerst. in that of *M. barbarus* Subsp. — ? (N97) and *Blastarnus* and *Nicandria* sp. in the nest of *B. soror* near Lower Sabie.

IV. COMPOUND NESTS OR ASSOCIATION WITH OTHER SPECIES.

The association of ants with other species of the same order or with insects belonging to different orders is quite a common phenomenon and was encountered on several occasions.

(a) *Association with other ants.*

The following cases were observed.

1. *Xiphomyrmex weitzeckeri* in the nest of *Tetramorium setuliferum* (C139).
2. *Pheidole sculpturata* Subsp. *rhodesiana* in association with *Dorylus fulvus* Subsp. *badius.* near Tshokwane and also in the nest of *Euponera caffraria* (Tshokwane).
3. *Pheidole megacephala* Subsp. *punctulata* together with *Tetramorium setuliferum* near Tshokwane.
4. *Plagiolepis jouberti* in association with *Pheidole megacephala* Subsp. — ? (N61).

(b) *Association with Termites.*

It is quite possible that, as previously mentioned, the ants help themselves to the seeds and grasses accumilated by the termites, as the ants' storerooms usually contain the same food as those of the termite. The ants are generally the intruders and disturbance of the nest results in active warfare.

Eight different species were found associated with termites :-

1. *Crematogaster castanea* Subsp. *rufo-nigra* together with *Pheidole liengmei* and *Ponera dulcis in* the nest of *Ancistrotermes* sp. (N97).

2. *Pheidole megacephala* Subsp. *punctulata* in the nest of the termite *Allodontermes rhodesiensis* Sjöst. near Tshokwane.

3. *Pheidole megacephala* Subsp. *impressifrons* in the nest of *Ancistrotermes lebomboensis* Full. and *Microtermes* sp. (N97).

4. *Ocymyrmex weitzeckeri* var. *arnoldi* in the nest of *Hodotermes mossambicus Hag.* (N168).

5. *Pheidole tenuinodis* in the nest of *Macrotermes bellicosus* Smeath (N97).

6. *Camponotus maculatus* Subsp. — ? in association with *Cubitermes duplex* Homg. near Skukuza.

7. *Monomorium albopilsum* var. *thales* and *Monomorium prossae* in the nests of *Trinervitermes* sp. (S 59, S 61).

ACKNOWLEDGEMENTS

The writer wishes to record his thanks to the National Parks Board, Kruger National Park officials and especially Mr. Brynard who was so interested in the survey. Sincere thanks are also due to Mr. Stegmann for assisting us to collect along the west border. Also thanks to the various people who helped us to obtain a spare tyre for our GG car.

He would also like to thank Mr. Jacot-Guillarmod of the Albany Museum, Grahamstown, for his guidance and for providing us with invaluable literature necessary for the identification of these ants; also Dr. W. G. H. Coaton of the Research Institute for Plant-Protection, Pretoria for identifying the termites; Dr. M. K. P. Meyer of the same institute for identifying the mites; Mr. D. v. V. Webb, our Senior Entomologist at Rosebank for his assistance and Dr. H. Andrea of the South African Museum, Cape Town, for identifying the beetles.

The invaluable assistance given by the late Dr. G. Arnold of the National Museum of Southern Rhodesia in connection with the identification of certain species and his interest in this survey is greatfully acknowledged.

REFERENCES

ARNOLD, G. (1922) — A Monograph of the Formicidae of South Africa. Ann. S.A. Museum, Vol. XIV.

ARNOLD, G. (1926) — A Monograph of the Formicidae of South Africa. Ann. S.A. Museum, Vol. XXIII, pp. 191-295.

WHEELER, W. M. (1922) — Ants of the Belgian Congo. Bull. Am. Mus. Nat. Hist. Vol. XLV.

WHEELER, W. M. (1910) — Ants, their Structure, Development and Behaviour.

A PRELIMINARY LIST OF THE ANTS COLLECTED IN THE KRUGER NATIONAL PARK

The Camponotine ants belonging to the subgenus *Tanaemyrmex* are separated into three groups viz. :- C. *maculatus*, C. *maculatus* with unknown subspecies and varieties, and C. *maculatus* Subsp. *liengmei* with unknown varieties, as it is at the present almost impossible, even for the specialist, to place these different ants in their correct specific ranks.

A. SUBFAMILY DORYLINAE LEACH.

I. *Genus Dorylus* Fab.
(Ethiopian, North Africa, Mediterranean Coast of Asia Minor, Indomalayan, Papuan.)

(a) *Subgenus Typhlopone* Westwood.
Dorylus (Typhlopone) fulvis Westw. Subsp. *badius* Gerst.
Type locality : Mocambique (Peters).
Distribution : Gold Coast, Belgian Congo, German East Africa, British East Africa, Uganda, Rhodesia, Bechuanaland, Mocambique, South West Africa, *South Africa :* Cape Province : Cape Town, *Transvaal : KNP* — C136 (A. J. Prins.).

(b) *Subgenus Dorylus* Fab.
Dorylus helvolus L.
Type Locality : Cape of Good Hope.
Distribution : Togo, Southern Nigeria, Belgian Congo, Nyasaland, German East Africa, British East Africa, Abyssinia, Southern Rhodesia, *South Africa :* Cape Province : Cape Town, Dunbrody, Blue Cliff, East London, Port Elizabeth, O.F.S. : Kroonstad, Bloemfontein. *Natal :* Estcourt, Durban, Ladysmith, Port Natal, *Transvaal :* Barberton, Pretoria, Makapan, Hebron, *KNP* — C139, C146 (A. A. Boonzaaier); S43, S45 (A. J. Prins).

II. *Genus Aenictus* Shuck.
(Ethiopian, North Africa, Indomalayan, Papuan, North East Australia.)
Aenictus eugenii Em.
Type Locality : Makapan, Tvl. (E. Simon).
Distribution : Southern Rhodesia, *South Africa :* Orange Free State : Bothaville, *Transvaal : KNP* — C50 (A. J. Prins.)

B. SUBFAMILY PONERINAE LEPELETIER.

I. *Genus Platythyrea* Roger.
(Tropicopolitan).
1. *Platythyrea schultzei* For.
Type Locality : South West Africa (L. Schultze).
Distribution : South West Africa, Southern Rhodesia, *South Africa : KNP* — near Mashicindudzi. (J. J. Cillie).

2. *Platythyrea lamellosa* Rog. var. *rhodesiana* For.
Type locality: Southern Rhodesia (G. Arnold).
Distribution: Belgian Congo, *South Africa*: *KNP* — N25, N259, C69 (A. J. Prins).

II. *Genus Megaponera* Mayr.
(Ethiopian).

Megaponera foetens F.
Type Locality: Guinea (Isert.).
Distribution: Senegambia, Sierra Leone, Gold Coast, Southern Nigeria, Cameroon, French Congo, Belgian Congo, Benguela, Portuguese East Africa, German East Africa, Angola, British East Africa, Uganda, Zanzibar, Abyssinia, Somaliland, Eritrea, Anglo Egyptian Sudan, Rhodesia, *South Africa*: Swaziland (J. H. Grobler), *Cape Province*: Jacob's Bay, Vredenburg (A. J. Prins), *Transvaal*: *KNP* — N107, N119 (A. J. Prins).

III. *Genus Ophthalmopone* For.
(Ethiopian).

Ophthalmopone berthoudi For.
Type Locality: Valdezia, Transvaal (P. Berthoud).
Distribution: Portuguese East Africa, Southern Rhodesia, *South Africa*: KNP — near Mashicindudzi, N168, S20, S30, S45, Malelane Rest Camp, (A. J. Prins); C136 (J. J. Cillie).
This species is very swift.

IV. *Genus Bothroponera* Mayr.
(Ethiopian Malagasy, Indomalayan, Papuan, Australian).

1. *Bothroponera krügeri* For.

Type Locality: Valdezia, Transvaal (P. Berthoud).
Distribution: *South Africa*: *Zululand*: Umfolosi, *Transvaal*: *KNP* — N32, C84, Nwanedzi (A. J. Prins); Malelane Rest Camp, S20 (J. J. Cillie).

2. *Bothroponera* soror. Em.

Type Locality: Cameroon (Conradt).
Distribution: Cameroon, Togo, French Congo, Belgian Congo, Southern Rhodesia, *South Africa*: *KNP* — N245, C121, C139, S59, Malelane Rest Camp (A. J. Prins); N25 (J. J. Cillie).

A rather rare species in Rhodesia according to Dr. Arnold. It has a very strong smell of cockroaches and the colonies do not usually comprise more than two dozen individuals. The writer found a nest near Letaba with only 10 ants. Near the Klopperfontein Dam a nest of this species contained numerous skeletons of *Tetramorium setuliferum*.

3. *Bothroponera crassa* Em. var. *crassior* Sant.

Type Locality : Mtetengwe, South Rhodesia? (G. Arnold).
Distribution : *South Africa* : *KNP* — N97 (A. A. Boonzaaier); N260, N259 (A. J. Prins).

V. *Genus Euponera* For.

(Tropicopolitan, Mediterranean, Japan, New Zealand).

(a) *Subgenus Mesoponera* Em.
Euponera (Mesoponera) caffraria Sm.
Type Locality : Port Natal, Natal.
Distribution : French Guinea, Sierra Leone, Cameroon, French Congo, Southern Rhodesia, Bechuanaland, *South Africa* : *Cape Province* : Port Elizabeth, Peddie (J. H. Grobler), *Natal* : Colenso, *Transvaal* : Pretoria, *KNP* — Tshokwane (A. J. Prins & A. A. Boonzaaier); Lower Sabie (A. J. Prins); S30, Malelane (J. J. Cillie).

(b) *Subgenus Brachyponera* Em.
Euponera (Brachyponera) sennaarensis Mayr.
Type Locality : Sennar, Anglo-Egyptian Sudan.
Distribution : Senegambia, French Guinea, Sierra Leone, Southern Nigeria, Cameroon, Spanish Guinea, French Congo, Belgian Congo, Uganda, British East Africa, German East Africa, Somaliland, Abyssinia, Anglo Egyptian Sudan, Arabia, Southern Rhodesia, *South Africa* : *KNP* — Crocodile Bridge Rest Camp (J. J. Cillie).

(c) *Subgenus Trachymesopus* Em.
Euponera (Trachymesopus) wroughtoni For.
Type Locality : Natal, (R. C. Wroughton).
Distribution : British East Africa, *South Africa* : *Cape Province* : Knysna, *Natal, Transvaal* : *KNP* — S61 (J. J. Cillie).

VI. *Genus Ponera Latreille.*

(Cosmopolitan).

Ponera dulcis For.
Type Locality : Arusha-chini, German East Africa (Katona).
Distribution : German East Africa, British East Africa, Eritrea, Southern Rhodesia, *South Africa* : *Natal* : Durban, *Transvaal* : *KNP* — N97 (A. J. Prins).

VII. *Genus Leptogenys Roger.*

(Neotropical, Southern Nearctic, Ethiopian, Malagasy, Indomalayan, Papuan, Australian).

Subgenus Leptogenys Rog.
Leptogenys cribrata Em.
Type Locality : Vryburg, C.P. (E. Simon).
Distribution : *South Africa* : *KNP* — Lower Sabie (A. J. Prins).

VIII. *Genus Odontomachus Latreille.*

(Tropicopolitan, Southern Nearctic).

Odontomachus haematodes L.

Type Locality : South America.

Distribution : Senegambia, French Guinea, Liberia, Ivory Coast, Gold Coast, Nigeria, Cameroon, Fernando Po, Spanish Guinea, San Thomé, French Congo, British East Africa, Abyssinia, Eritrea, Mocambique, Uganda, Bechuanaland, Southern Rhodesia, *South Africa : Zululand* (J. J. Nel), *Transvaal :* Hammans' Kraal, KNP — S59, Lower Sabie, Pretorius Kop Rest Camp, Tshokwane (A. J. Prins).

C. SUBFAMILY PSEUDOMYRMINAE Em.

Genus Sima Roger.

(Ethiopian, Malagasy, Palestine, Indomalayan, Papuan, Australian.)

Sima natalensis Sm.

Type Locality : Port Natal, Natal.

Distribution : German East Africa, Somaliland, *South Africa : Zululand :* Umfolosi, Cape Province, *Natal :* Durban, Weenen, Stamford Hill, *Transvaal :* Makapan, Hammans' Kraal, *KNP* — Pretoriuskop Rest Camp (A. J. Prins).

D. SUBFAMILY MYRMICINAE LEPELETIER.

I. *Genus Myrmicaria* Saunders.

(Ethiopian, Indomalayan, Papuan.)

1. *Myrmicaria natalensis* Sm. var. *eumenoides* Gerst.

Type Locality : Tete, Portuguese East Africa (Peters).

Distribution : Cameroon, Spanish Guinea, Belgian Congo, German East Africa, British East Africa, Uganda, Zanzibar, Angola, Bechuanaland, Southern Rhodesia, South West Africa, *Basutoland, South Africa: Transvaal :* Barberton, Valdezia, Makapan, Pretoria, Hammans' Kraal, *KNP* — C146 (A. A. Boonzaaier); Nwanedzi (J. J. Cillie); N259, C155, Lower Sabie, Malelane, near Crocodile Bridge Rest Camp (A. J. Prins).

2. *Myrmicaria fusca* Stitz Subsp. *nigerrima* Arn.

Type Locality of Subsp. *nigerrima :* Matoppo Hills, South. Rhod. (G. Arnold).

Distribution : South Africa : KNP — Nwaswitsonso Dam (A. J. Prins & A. A. Boonzaaier).

II. *Genus Messor* For.

(Palearctic, Ethiopian, Northern India).

1. *Messor barbarus* L. Subsp. *capensis* Mayr.

Type Locality : Cape of Good Hope (Novara Expedition).

Distribution : South Africa : Cape Prov. : Cape Town, Kimberley,

Willowmore, *Transvaal*: Makapan, Pretoria, *KNP* — Olifants Rest Camp (A. J. Prins), *Natal*: Durban, Wessels Neck.

2. *Messor barbarus* L. var.

Distribution: *South Africa*: *Transvaal*: *KNP* — NG7 (A. J. Prins).

III. Genus *Pheidole* Westwood.

(Tropicopolitan, Southern Palearctic, Nearctic).

1. *Pheidole megacephala* F. Subsp. *rotundata* For.

Type Locality: Delagoa (Liengme).

Distribution: Mossamedes, German East Africa, British East Africa, Southern Rhodesia, *South Africa*: *Natal*: Durban, *Transvaal*: Pretoria, *KNP* — N97, C92, S61 (A. J. Prins); N260 (J. J. Cillie); Malelane (A. J. Prins).

2. *Pheidole megacephala* F. Subsp. *impressifrons* Wasmann.

Type Locality: Port Elizabeth, C.P. (H. Brauns).

Distribution: Southern Nigeria, Belgian Congo, Eritrea, Abyssinia, Southern Rhodesia, *South Africa*: *Cape Prov.*: Willowmore, *Natal*: *Zululand*, *Transvaal*: Pretoria, *KNP* — N259, N149, N97, N61, C92, S30 (A. J. Prins).

3. *Pheidole megacephala* F. Subsp. *punctulata* Mayr.

Type Locality: Caffraria.

Distribution: French Guinea, Ivory Coast, French Congo, Portuguese Congo, Belgian Congo, Angola, Benguela, Mossamedes, Portuguese East Africa, German East Africa, British East Africa, Zanzibar, Uganda, Abyssinia, Eritrea, Southern Rhodesia, *South Africa*: *Cape Prov.*: Grahamstown, Lower Albany, Port Elizabeth, *Natal*: Durban, *Transvaal*: Pretoria, Majika, *KNP* — N259, N168, N149, N107, N97, C154, C146, C135, Nwanedzi, C81, C59 (A. J. Prins); S44 (A. A. Boonzaaier); S59, S41, S20 (A. J. Prins); Malelane, Lower Sabie, S61, S44 (J. J. Cillie).

4. *Pheidole tenuinodis* Mayr.

Type Locality: Bothaville, O.F.S. (H. Brauns).

Distribution: South West Africa, Bechuanaland, Southern Rhodesia, *South Africa*: *Cape Prov.*: Ladismith, Kirstenbosch, *Natal*: Pinetown, *Transvaal*: *KNP* — N97, N32, Malelane (A. J. Prins).

5. *Pheidole prelli* For. Subsp. *redbankensis* For. var. *politocciput.* Sant.

Type Locality: Delagoa, Portuguese East Africa (Liengme).

Distribution: Southern Rhodesia, *South Africa*: *KNP* — N61, S43, S23 (A. J. Prins); Lower Sabie (A. J. Prins & J. J. Cillie).

6. *Pheidole sculpturata* Mayr. Subsp. *rhodesiana* For.

Type Locality: Bulawayo, S.R. (G. Arnold)?

Distribution: *South Africa*: *KNP* — N259, Tshokwane, S61, (A. J. Prins).

7. *Pheidole liengmei* For.

Type Locality : Delagoa, Portuguese East Africa (Liengme).
Distribution : German East Africa, Southern Rhodesia, *South Africa* : *Zululand* : Mkosi, *Transvaal* : *KNP* — Shingwidzi, N97 (A. J. Prins); C121 (A. A. Boonzaaier).

8. *Pheidole crassinoda* Em.

Type Locality : Makapan, Tvl. (E. Simon).
Distribution : South West Africa, Bechuanaland, German East Africa, West Abyssinia, *South Africa* : *Natal* : Verulam, *Transvaal* : *KNP* — Shingwidzi, Pumbe (A. J. Prins); Malelane (J. J. Cillie).

IV. *Genus Crematogaster* Lund.
(Tropicopolitan and warm temperate regions; in North America reaching to Canada.

(a) *Subgenus Orthocrema* Sant.
Crematogaster (orthocrema) transvaalensis For.
Type Locality : Transvaal (P. Berthoud).
Distribution : *South Africa* : *Cape Prov.* : Cape Laun, Vryburg, *Transvaal* : *KNP* — S92 (A. J. Prins).

(b) *Subgenus Sphaerocrema* Sant.

Crematogaster (Sphaerocrema) kneri Mayr.
Type Locality : Akwapim Mts., Gold Coast.
Distribution : Abyssinia, Belgian Congo, *South Africa* : *Orange Free State* : Bothaville, *Natal, Transvaal* : *KNP* — C121 (A. J. Prins).

(c) *Subgenus Acrocoelia* Mayr.

1. *Crematogaster castanea* Sm. Subsp. *rufo-nigra* Em.

Type Locality : Hebron, Tvl. (E. Simon).
Distribution : German East Africa, Belgian Congo, South West Africa, Kalahari, Southern Rhodesia, *South Africa* : *Transvaal* : *Hammans'* Kraal, *KNP* — N97, (A. J. Prins & A. A. Boonzaaier); Olifant's Rest Camp, Malelane (A. J. Prins).

2. *Crematogaster gerstaeckeri* D.T.-?
Type Locality of gerstaeckeri : Mombasa, B.E.A. (v.d. Decken).
Distribution : Uganda, *South Africa* : *KNP* — C133 (A. A. Boonzaaier); S43 (J. J. Cillie), S30 (A. J. Prins).

3. *Crematogaster misella* Arn.
Type Locality : Bulawayo S.R. (G. Arnold).
Distribution : *South Africa* : *KNP* — C69 (A. A. Boonzaaier).

4. *Crematogaster monticola* Arn.
Type Locality : Mountains of Natal (Haviland).
Distribution : South Africa : KNP — C69 (A. A. Boonzaaier).

V. *Genus Monomorium* Mayr.
(Tropicopolitan; also in warm temperate regions, especially in the Old World; in the Nearctic Region to Southern New England).

(a) *Subgenus Monomorium* Mayr.

1. *Monomorium sctuliferum* For.
Type Locality: Khakkea, Bechuanaland (L. Schultze).
Distribution: Angola, South West Africa, Bechuanaland, Southern Rhodesia, *South Africa*: *KNP* — Pumbe (A. J. Prins & J. J. Cillie); S30 (A. J. Prins).

2. *Monomorium prossae* For.
Type Locality: Hillside, Bulawayo, S.R. (G. Arnold).
Distribution: *South Africa*: *KNP* — 559 (A. J. Prins).

(b) *Subgenus Xeromyrmex* Em.

1. *Monomorium albopilosum* Em. var. *thales* For.
Type Locality: Springvale, Rhodesia (G. Arnold).
Distribution: Southern Rhodesia, *South Africa*: *Transvaal*: Shilouvane, Pretoria, *KNP* — N243, N149, N97, N61, N25 (A. J. Prins); S61 (J. J. Cillie).

2. *Monomorium afrum* André.
Type Locality: Atbara River, Anglo-Egyptian Sudan (Magretti).
Distribution: British East Africa, Southern Rhodesia, *South Africa*: *KNP* — N61, N40, C155 (A. J. Prins); C135 (A. A. Boonzaaier); S41 (J. J. Cillie).

(c) *Subgenus Parholcomyrmex* Em.
Monomorium (Parholcomyrmex) emeryi Mayr.
Type Locality: Mocambique Island, P.E.A. (H. Brauns).
Distribution: Southern Rhodesia, *South Africa*: *KNP* — N107 (J. J. Cillie); N97 (A. J. Prins).

VI. *Genus Leptothorax* Mayr.
(Palaerctic, Ethiopian, Malagasy, Nearctic, Neotropical, Indomalayan).

Leptothorax angulatus Mayr.
Type Locality: Sinai Peninsula (R.v. Frauenfeld).
Distribution: Tunis, Central Uganda, Southern Rhodesia, *South Africa*: *KNP* — C155 (J. J. Cillie); C69, S20 (A. J. Prins).

VII. *Genus Ocymyrmex* Em.
(Ethiopian).

Ocymyrmex weitzeckeri Em. var. *arnoldi* For.
Type Locality: Bulawayo, S.R. (G. Arnold).
Distribution: Southern Rhodesia, *South Africa*: *Zululand*, *Transvaal*: *KNP* — N168, N107, N73, N25, N4, Lower Sabie, S30, S59, S20 (A. J. Prins); Tshokwane, S61, S41 (J. J. Cillie).

VIII. *Genus Tetramorium* Mayr.
(Tropics and warm temperate regions, especially of the Old World).

1. *Tetramorium gladstonei* For.
Type Locality: Shiloh, Southern Rhodesia (G. Arnold).
Distribution: *South Africa*: *KNP* — N41 (A. J. Prins).

2. *Tetramorium setuliferum* Em.
Type Locality: Vryburg, Cape Province (E. Simon).
Distribution: Delagoa, Bechuanaland, South West Africa, North West Rhodesia, Southern Rhodesia, *South Africa*: *Basutoland, Cape Province*: Mafeking, *Orange Free State*: Bothaville, *Transvaal*: *KNP* — C139 (A. A. Boonzaaier); Tshokwane, C133, C135, Pretoriuskop Rest Camp, Malelane, S20, S32 (A. J. Prins); S12 (J. J. Cillie).

IX. *Genus Xiphomyrmex* For.
(Ethiopian, Malagasy, Indomalayan, Papuan, Australian, Nearctic).
Xiphomyrmex weitzeckeri Em.
Type Locality: Verulam, Natal (Weitzecker).
Distribution: Belgian Congo, Southern Rhodesia, *South Africa*: *Natal*: Durban, Stamford Hill, *Transvaal*: *KNP* — C139 (A. A. Boonzaaier).

X. *Genus Cataulacus* Sm.
(Ethiopian, Malagasy, Indomalayan, Papuan).
Cataulacus rugosus For.
Type Locality: Delagoa Bay, Portuguese East Africa (A. Müller; (Liengme).
Distribution: German East Africa, Zanzibar, *South Africa*: *KNP* — N51, C69 (A. A. Boonzaaier); Pumbe, S61, S20 (A. J. Prins).

E. SUBFAMILY DOLICHODERINAE For.

I. *Genus Tapinoma* Förster.
(Cosmopolitan, except New Zealand).
Tapinoma arnoldi For.
Type Locality: Plumtree, Southern Rhodesia (G. Arnold).
Distribution: Southern Rhodesia, *South Africa*: *Natal, Transvaal*: *KNP* — C81 (J. J. Cillie).

2. *Tapinoma voeltzkowi* For. var. *rhodesiae* For.
Type Locality: Bulawayo, Southern Rhodesia (G. Arnold).
Distribution: *South Africa*: *KNP* — S92 (A. J. Prins).

II. *Genus Technomyrmex* Mayr.
(Ethiopian, Malagasy, Indomalayan, Papuan, Australian, Southern Japan).
Technomyrmex albipes Sm. Subsp. *foreli* Em.
Type Locality: Madagascar.

Distribution : Angola, *South Africa* : *Orange Free State* : Bloemfontein, *Natal* : Durban, Mountain Rise near Pietermaritzburg, *Zululand* : Dukudu, *Cape Prov.* : Willowmore, Vryburg, *Transvaal* : *KNP* — N107, S61 (A. J. Prins); S43, Malelane, S20 (J. J. Cillie); Tshokwane (A. A. Boonzaaier).

F. SUBFAMILY FORMICINAE LEPELETIER.

I. *Genus Anoplolepis* Sant.
(Palearctic, Ethiopian, Malagasy, Indomalayan, Papuan, Australian).

(a) *Subgenus Anoplolepis* Sant.
Anoplolepis trimeni For.
Type Locality : Natal (Mutschinson).
Distribution : Southern Rhodesia, *South Africa* : *KNP* — N107, N216, Olifants Rest Camp (A. J. Prins).

(b) *Subgenus Zealleyella* Arn.
Anoplolepis (Zealleyella) custodiens Sm.
Type Locality : Port Natal, Natal.
Distribution : Belgian Congo, Angola, Somaliland, British East Africa, German East Africa, Zanzibar, Portuguese East Africa, Bechuanaland, South West Africa, Northern Rhodesia, *South Africa* : *Cape Prov.* : Kimberley, Vryburg, Willowmore, *Natal* : Pietermaritzburg, Malvern, Durban, *Orange Free State* : Bothaville, *Zululand* : Umfolosi, *Basutoland* : Lessouto, *Transvaal* : Lydenburg, Makapan, Pretoria, Hamman's Kraal, Valdezia, *KNP* — N51, C113, S43, S12, Pretoriuskop Rest Camp (A. J. Prins); C133 (A. A. Boonzaaier); S92, Tshokwane (J. J. Cillie).

II. *Genus Plagiolepis* Mayr.
(Palearctic, Ethiopian, Malagasy, Indomalayan, Papuan, Australian).

Subgenus Anacantholepis Sant.

1. *Plagiolepis (Anacantholepis) jouberti* For.
Type Locality : Kamaggas, Cape Province (L. Schultze).
Distribution : British East Africa, *South Africa* : *KNP* — N61, C121 (A. J. Prins).

2. *Plagiolepis (Anacantholepis) van den kelleni* For. Subsp. *polita* Sant.
Type Locality : Stamford Hill, Natal (I. Trägardh.).
Distribution : *South Africa* : *KNP* — Letaba Rest Camp (J. J. Cillie).

III. *Genus Acantholepis* Mayr.
(Mediterranean, Central Asia, Ethiopian, Malagasy, Indomalayan).

1. *Acantholepis submetallica* Arn.
Type Locality : Bulawayo, Southern Rhodesia (G. Arnold).

Distribution: *South Africa*: KNP — C154 (A. A. Boonzaaier); Malelane (J. J. Cillie).
The only South African ant with a metallic lustre.

2. *Acantholepis capensis* Mayr. var. *validiuscula* Em.
Type Locality: Webi, Abyssinia (Ruspoli).
Distribution: Belgian Congo, Rhodesia, *South Africa*: *Cape Prov.*: (very common) Kimberley, King Williamstown, *Transvaal*: *KNP* — N40, Nwanedzi (A. J. Prins); S20, Pumbe (J. J. Cillie).

3. *Acantholepis capensis* Mayr. Subsp. *hirsuta* Sant., var. *elevata* For.
Type Locality: Hillside, Bulawayo, S.R. (G. Arnold).
Distribution: *South Africa*: *KNP* — Nwanedzi (J. J. Cillie).

4. *Acantholepis capensis* Mayr. Subsp. *laevis* Sant., var. *incisa* For.
Type Locality: Elizabethville, Belgian Congo (J. Bequaert).
Distribution: British East Africa, *South Africa*: *KNP* — S30, S20, (A. J. Prins).

IV. *Genus Camponotus* Mayr.
(Cosmopolitan).

(a) *Subgenus Tanaemyrmex* Ashm.

1. *Camponotus (Tanaemyrmex) maculatus* F.

Type Locality: In Africa aequinoctiali (Probably Sierra Leone).
Distribution: Belgian Congo, Senegambia, Southern Nigeria, Cameroon, French Congo, Zanzibar, German East Africa, British East Africa, Somaliland, Abyssinia, Eritrea, Anglo Egyptian Sudan, Southern Arabia, Bechuanaland, South West Africa, Mocambique, Rhodesia, *South Africa*: *Cape Prov.*: Cape Town, Kimberley, Kingwilliamstown, East London, *Orange Free State*: Bloemfontein, *Natal*: The Bluff, Durban, Sydenham, Durban, *Transvaal*: Makapan, Hamman's Kraal, Pretoria, Hebron, Barberton, Lydenburg, Johannesburg, Majika, *KNP* — N259, Olifants Rest Camp, C59, Malelane (A. J. Prins).

2. *Camponotus (Tanaemyrmex) maculatus* F. Subsp. and varieties unknown.

Distribution: Northern Rhodesia: Siamahof, Choma (W. G. H. Coaton), *South Africa*: *Cape Prov.*: Bonso Bay, East London (A. J. Prins), Laingsburg, Middelburg (A. J. Prins), Simonstown (E. D. Thomas), Sunny Seas, Caledon (A. J. Prins), Stutterheim (A. J. Prins), *Transvaal*: *KNP* — N260, N248, C172, C146, C111, Nwanedzi, Lower Sabie, S41, S42 (A. J. Prins); N271 (J. J. Cillie); C133 (A. A. Boonzaaier).

3. *Camponotus (Tanaemyrmex) maculatus* F. Subsp. *liengmei* For. varieties unknown.

Type Locality of Subspecies Liengmei : Delagoa Bay, Portuguese East Africa (Liengme).

Distribution : *Northern Rhodesia* : Choma (W. G. H. Coaton), *South West Africa* : Windhoek (F. Honiball), *South Africa* : *Cape Prov.* : Albertinia, Bredasdorp, Cathcart, George, Herbertsdale, Kleinmondstrand, Knysna, Mossel Bay, Oudekraal, Richmond, Riviersonderend, Stutterheim (A. J. Prins), Grahamstown (J. J. Cillie), Garcias Pass, Riversdale, Tulbagh (J. H. Grobler), Molenrivier, George (A. A. Boonzaaier), *Transvaal* : *Bronkhorstspruit* (J. J. Nel), *KNP* — N149, C154, Nwanedzi, S61, S46, S30 (A. J. Prins); C59 (A. A. Boonzaaier); Malelane, S20 (J. J. Cillie), Lower Sabie (A. J. Prins & J. J. Cillie). The subspecies *liengmei* has also been collected in : British East Africa, Zanzibar, *South Africa* : *Natal* : Durban, *Cape Prov.* : Kimberley, Algoa Bay, *Transvaal* : Pretoria.

(b) *Subgenus Myrmosericus* Em.

1. *Camponotus (Myrmosericus) petersi* Em. var. *janus* For.
Type Locality : Bothaville, O.F.S. (H. Brauns).
Distribution : *South Africa* : *KNP* — C135 (A. J. Prins); C146 (A. A. Boonzaaier).

2. *Camponotus (Myrmosericus) rufoglaucus* Jerd. Subsp. *zulu* Em.

Type Locality : Isipingo, Natal (Weitzecher).
Distribution : Abyssinia, *South Africa* : *Natal* : Verulam, Amanzimtoti, *Transvaal* : *KNP* — C154, Nwanedzi (A. J. Prins); S33 (J. J. Cillie).

3. *Camponotus (Myrmosericus) rufoglaucus* Jerd. Subsp. *vestita* Sm. var. *intuens* For.

Type Locality : Cucala, Benguela (J. Cruchet).
Distribution : French Congo, Southern Rhodesia, *South Africa* : *KNP* — N97, N4, C142, Tshokwane, C113, C111, C69, Malelane, S12 (A. J. Prins); C135 (A. A. Boonzaaier); 561 (J. J. Cillie).

(c) *Subgenus Orthonotomyrmex* Ashm.

1. *Camponotus (Orthonotomyrmex) sericeus* F.
Type Locality : Senegal (Bosc.).
Distribution : India, Ceylon, Arabia, Egypt, Senegambia, Southern Nigeria, French Congo, Belgian Congo, Anglo-Egyptian Sudan, Eritrea, Southern Arabia, Abyssinia, Somaliland, Uganda, East Africa, British East Africa, German East Africa, Southern Rhodesia, *South Africa* : *KNP* — N168, C133 (A. J. Prins).

2. *Camponotus (Orthonotomyrmex) mayri.* For.

Type Locality : Valdezia, Tvl. (P. Berthoud).
Distribution : French Congo, Portuguese Congo, Belgian Congo, German East Africa, British East Africa, Zanzibar, Portuguese East Africa, Southern Rhodesia, *South Africa : Natal :* Durban, *Transvaal :* Makapan, Pretoria, Hamman's Kraal, *KNP — Malelane* (A. J. Prins); N259, N25 (J. J. Cillie).

(d) *Subgenus Myrmotrema* For. el.

Camponotus (Myrmotrema) robecchii Em. Subsp. *rhodesiena* For.
Type Locality : Redbank, Southern Rhodesia (G. Arnold).
Distribution : Southern Rhodesia, *South Africa : KNP* — N97, Malelane (A. J. Prins).

V. *Genus Polyrachis* Shuck.
(Ethiopian, Syria, Indomalayan, Papuan, Australian).
Subgenus Myrma Wheeler.

1. *Polyrachis (Myrma) gagates* Sm. Subsp. *indefinita* For.

Type Locality : Sankisia, Belgian Congo (J. Bequaest).
Distribution : British East Africa, Southern Rhodesia, *South Africa : Natal :* Amanzimtoti, *Transvaal : KNP* — N4, (A. J. Prins).

2. *Polyrachis (Myrma) schistacea* Gerst.

Type Locality : Mocambique, Portuguese East Africa (Peters).
Distribution : Portuguese Congo, Belgian Congo, British East Africa, German East Africa, Zanzibar, Nyasaland, Southern Rhodesia, *South Africa : Natal :* Durban, *Transvaal :* Pretoria, *KNP* — N119, Tshokwane, C133, Nwanedzi S18 (A. J. Prins); C139 (A. A. Boonzaaier); Malelane S61, S46 (J. J. Cillie).

3. *Polyrachis (Myrma) schistacea* Gerst. var. *rugulosa* Mayr.

Type Locality : Port Natal, Natal.
Distribution : Togo, Cameroon, French Congo, Portuguese Congo, Belgian Congo, German East Africa, Zanzibar British East Africa, Somaliland, Abyssinia, Portuguese East Africa, Rhodesia, Angola, *South Africa : Cape Prov. :* Kimberley, *Transvaal :* Makapan, Hamman's Kraal, Valdezia, *KNP* — N260, C61, S92, S23 (A. J. Prins).